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(54) **MODULATION DEVICE, TRANSMISSION DEVICE, MODULATION METHOD, AND COMMUNICATION SYSTEM**

(57) Abstract:

PROBLEM TO BE SOLVED: To achieve an optical modulation device capable of suppressing deterioration of transmission signal in quality caused by drift of a working point of a modulation device, by adding dither signal on a bias voltage of an optical modulation device.

SOLUTION: This optical modulation device comprises a source of light 1, an optical modulator 3, a modulator driving circuit 24, a dither signal generator 12, a peak detector 15 for detecting a low frequency dither signal from output signal, a synchronous detection circuit 7 for detecting synchronization of the dither signal generated from the low frequency and dither signal generator detected in the peak detector 15, and a bias circuit 10 for controlling a bias applied to the optical modulator 3 according to the result of the synchronization detection by the synchronous detection circuit 7. And, adding a low frequency signal on the bias makes it easily possible to control the operation of the modulator even in modulating a high frequency signal.